Water Quality Standards Advisory Committee

Minutes of January 24, 2001
9:00 am – 12:00 pm
Room 212-213

Members present:

John Hodsdon	NH Farm Bureau
Marjory Swope	NH Association of Conservation Commissions
Vernon Lang	US Fish and Wildlife Service
Eileen Miller	NH Association of Conservation Districts
Michael P. Donahue	Business and Industry Association of NH
Carl Paulsen	NH Rivers Council
Steve Clifton	Consulting Engineers of NH
Wendell Berry	NH Lakes Association
Bill Beckwith	US Environmental Protection Agency
Robert Fawcett	NH Fish and Game
Donna Hanscom	NH Water Pollution Control Association
David G. Miller	NH Water Works Association
Bill McDowell	University of New Hampshire
Timothy Fortier	NH Travel Council
Kenneth Kimball (via telephone)	Recreational Interests

Interested participants present:

Andrew Serell	Rath, Young & Pignatelli Professional Association
William Heinz	Granite State Hydropower Association
Allan Palmer	Public Service of New Hampshire
Jim Presher	CRSW/RRC
Ron Rayner	Environmental and Industrial Waste Management
Neil Kamman	Vermont Department of Environmental Conservation

Staff present:

Paul Currier	DES
George Berlandi	DES
Gregg Comstock	DES
Bob Estabrook	DES
Stephanie D'Agostino	DES
Steve Couture	DES
Jacquie Colburn	DES
Beth Malcolm	DES
Judy Reid	DES

1. **Introduction**

Paul Currier called the meeting to order shortly after 9:00 am. Members and interested participants introduced themselves and distributed membership lists. Paul explained that the purpose of the committee was to act in an advisory role to assist the department in formulating policy and drafting revised water quality regulations. The proposed concept is that the Department of Environmental Services (DES) or a committee member identifies a water quality issue, DES writes a 'strawman' paper on the issues, the committee discusses and edits the paper, and a workgroup is established to develop a final position paper and draft rule language. The workgroups may have membership outside the committee by invitation of individuals with expertise or direct interest. Bob Estabrook briefly described the Mercury study recently conducted.

2. **Assessment of Mercury in sediments, waters and biota of Vermont and New Hampshire lakes – Neil Kamman, VT DEC**

Neil Kamman of the Vermont Department of Environmental Conservation gave a Power Point presentation on mercury, detailing the reasons that mercury in Vermont and New Hampshire ecosystems is such a problem, and the extent of the problem. Issues addressed: how to identify the lakes that will have mercury problems and how state agencies such as Fish & Game can advise citizens of those lakes with the least risk of mercury toxicity. Other components included mercury's impact on water quality standards and management as well as information on the new methyl mercury standards just released by the US Environmental Protection Agency. An informal question and answer period, detailing the graphs and the research's inferential and correlative methodology followed. Electronic and print copies of Neil's Power Point presentation are available on request.

3. **Mercury Standard Status Update**

Gregg Comstock updated attendees on the status of the EPA position paper on mercury, remarking on the problematic nature of capturing a position in the light of EPA's own changing human health criteria. The final version is not yet out but a pre-publication draft should be available by the end of the month.

Bill Beckwith explained that a recent presidential order regarding EPA regulations, while probably not affecting any EPA water quality criteria, might result in other modifications to the paper and affect the timing of its availability on line. The paper's release is on a 60-day hold.

Gregg also obtained the Great Lakes final rule, which details criteria for wildlife. Information is in the process of being obtained from the states of Maine and New York and the writers of the position paper are still in "fact-finding mode." Gregg will compile

the available data and put a draft together. The relationship between human health, fish content and water column criteria also affects federal mercury regulations and the paper's release. States are expected to use federal human health criteria for water based on fish tissue concentration and bioaccumulation as guidance and backtrack from there to determine an allowable state water column concentration. Pending federal information and regulations should help states set their own standards for TMDLs and NPDES permits. The State of Ohio has additional information regarding sediment concentrations; the Army Corps of Engineers is another possible information resource. DES' position paper is on hold pending additional information and guidance from EPA.

The question was subsequently raised whether or not to adopt a fish tissue (or wildlife) standard for human health as a follow up to the EPA guidelines. Possibly, Paul Currier commented, the REMAP study could, at some point, be refined so that not all New Hampshire water bodies exceed mercury concentration standards for fish tissue consumption. Ken Kimball made the recommendation in light of his experience with hydroelectric plants and the 401 certification process, that the state changes its current mercury criteria so that they are derived from fish tissue samples rather than water samples. Most water sample data, regardless of its state of origin, does not facilitate the decision-making process. Fish data, on the contrary, provides much clearer guidance on how to develop mercury standards.

Paul Currier concurred, stating that using fish tissue sampling avoids involving any NPDES data, and that possibly the water column criteria were "converted" from fish tissue concentrations originally, anyway. Some discussion ensued as to whether NPDES data could be completely excluded, regardless of the sampling criteria used. Although no New Hampshire water bodies fail to meet water sample standards, there are problems with fish tissue, and those problems need to be followed up.

To the knowledge of DES, there are no point sources in place in New Hampshire on which to orient any criteria, except for reservoirs, namely 15 Mile Falls. Ken Kimball also cited the PSNH project as a possible model. Lake modeling appears to be a viable option, particularly regarding the relationship between anoxic [lake] bottoms and concentrations of methyl mercury. It was suggested that further comment be deferred until Gregg can present the position paper.

4. Flow-based permits

George Berlandi distributed and summarized the DES position paper on flow-based permits. Flow-based permits are permits where the effluent limit is based on the flow in the receiving stream. Flow-based permits were not allowed in New Hampshire since the inception of the NPDES program. Flow-based permits will increase the level of pollution discharged to receiving streams over the amounts that are allowed in current New Hampshire rules.

As background, a similar type of approach was used in New Hampshire before the NPDES program came into being with the Clean Water Act in 1972, using the flow of any given receiving stream to predict the amount of effluent from a treatment plant or municipality. Manchester had been used as a model in the late 1960s. EPA and Congress subsequently decided against modeling the assimilative capacities of a given stream because modeling methodology had some errors. One model, for example, failed to take into account the cumulative effects of watershed activity. Modeling also made various assumptions that might not have been valid all of the time. The Clean Water Act came up with secondary limits—30-30 for municipal wastewater treatment plants—that are in affect today.

The approach to the DES position on flow-based permits, rather than comparing New Hampshire's position to those of other states, was to explore why New Hampshire took its original position regarding flow-based permits back in the 1970s. It was felt that allowing flow-based permits would be contrary to federal and state law—not solely in light of the state water quality standards but in light of the Clean Water Act, congressional acts and state statutes.

Questions and comments ensued, including a "five-minute rebuttal" by Andrew Serrell which touched on the two levels of restrictions on discharges: technology-based restrictions independent of the assimilative capacities of receiving streams, set for various parameters, which all streams must comply with; and water quality-based restrictions which would take precedence over technology-based ones if receiving streams were not adequately protected. Water quality-based permit limits for any given discharge are based on two criteria, the state water quality standards themselves (set by the state usually based on EPA standards) and the dilution of the receiving stream. Dilution is ***one*** of the two critical components of water quality-based permit standards.

Serrell described the DES position paper as being "a little disingenuous" in its use of the phrase "flow-based comments are based on the concept that 'dilution is the solution to pollution,'" a catchy phrase of elusive meaning. Serrell interpreted that, if this adage was in fact true, once the discharger met the technology-based limits, the higher the flow in the receiving stream would be, the greater the dilution and the greater the amount of pollutants that could be discharged to that given stream. Under the Clean Water Act as historically and currently interpreted and implemented, when water quality-based permit limits are in place, the limit varies depending on the dilution in the receiving stream. Flow-based permits are related to the issue of determining what the appropriate dilution is for determining permit limits. Typically, DES has looked at the 7Q10 (the low flow limit) of the receiving stream and models it against the plant's designed flow. The operative assumption is that the plant's designed flow would coincide with the stream's lowest flow. The resultant solution factor is what would be used to calculate the limits of a water quality-based permit. This methodology, Serrell stated, is based on unrealistic assumptions; most plants, probably all point dischargers, don't discharge at their maximum capacity when the stream's flow is low. Most dischargers keep data on both

these parameters, so substantiating information is in place and, Serrell said, should be used to make the flow-based permit calculations instead of the method DES currently uses. The concept doesn't vary the technology-based limits which every permittee has to use regardless of the assimilative capacity of the stream, and it doesn't allow a permittee to increase its existing discharge—based on the anti-degradation permits of the Clean Water Act as well as state laws. The concept does not allow the recalculation of limits. It does, however, allow a permittee to request that DES study actual flow data for a limit that was previously unestablished or is cost prohibitive.

Mr. Serrell distributed DES documents from 2-3 years ago revising water quality standards; one of the revisions amended the language of regulations to take away some regulated communities' discretion to use flow-based permits. A statement had been requested of the EPA as to whether flow-based permits violated the Clean Water Act and EPA's written response had been that they did not and were, in fact, used by EPA in other states.

Several permittees objected to DES' change of regulatory language for the same reason. The Joint Legislative Committee on Administrative Rules made a preliminary objection. DES responded to that and ultimately the JLCAR interposed a final objection to the DES change on the grounds that it violated Part I Article 28 of the New Hampshire constitution by eliminating a method of compliance that was permissible under the Clean Water Act, thereby imposing more restrictions than EPA mandated. Mr. Serrell suggested that these documents be studied and evaluated as the decision making process progressed and that possibly a sub task force be established. It was recommended that the position paper be based on specific constituents and specific parameters as it was refined.

Ken Kimball questioned the practicality of a variable discharge limit that varies with flows and wondered how businesses would be able to constantly monitor the flows and adjust their discharge rates accordingly on a daily and 24-hour basis. The pros and cons of flexible vs. seasonal permit limits were discussed. The practical application, Paul Currier stated, would be for a particular discharger to put treatments for certain toxic constituents on- or off-line depending on whether the flow was high or low and permits limits could be met without the treatment in place. Objections were raised about the high operational and capital costs for treatment plants and practicality of implementation—it was debatable what this policy would actually accomplish. More information is essential before any more action is taken, but flow-based permits remain an important issue for several municipalities and treatment plants. Paul Currier suggested that if a facility had water storage capacity the 7Q10 could be computed based on the times a facility would be discharging. The flow-based permit should be able to accommodate changes in stream flow and plant discharge over time and in return the discharger should be able monitor those changes on a continuing basis, despite the inherent difficulties on both sides. It was important to some participants, however, that the limits not be relaxed below technology-

based standards. Variability in permitting limits, although more difficult to execute initially, should be a baseline for all ongoing regulation.

ACTION STEPS

1. Form a working group that would meet between now and the date of the next full meeting.
2. Participants were asked to volunteer for the working group, to be held in February or the beginning of March in preparation for the next quarterly WQSAC meeting. The workgroup meeting was scheduled for February 21 from 9:00 am to noon. ***[The subgroup meeting was subsequently moved to March 7, Rooms 110-111, from 9 am to noon.]***
3. Schedule the next full WQSAC meeting be held when the working group meets.
4. Have the work group begin with a review how a permit is actually written and specifying on what is done and not done in the process and the component assumptions.
5. Keene and the copper issue suggested as the first case up for discussion.
6. The option of granting regulatory mixing zones *on permittee request* will also be an issue, as opposed to the current, universal assumption of dilution/instantaneous mixing at 7Q10. The assumption of instantaneous mixing is a real advantage to the permit holder, because without a mixing zone the discharger would have to meet the ambient standard at the end of the pipe.
7. EPA and DES to work jointly on all issues.

Some concern was expressed that DES activity to this end might be premature if their initiatives end up being tabled by EPA. Although DES favors the status quo regarding instantaneous mixing and is loath to see that change, it is not "locked in" to any given position and can respond flexibly.

There was some misapprehension that the ongoing discussion was expanding the scope of the work group from flow-based permits to all permits; however, those ideas had simply been part of the introduction to the group's goals as well as an overview of the general permitting process. A thorough understanding of this process is necessary to ensure that all factors are taken into consideration, standards are met, and all the necessary limits are set.

5. Conclusion

The next meeting will be held on May 16, 2001 at the DES 6 Hazen Drive, Concord, New Hampshire from 9:00 am to 12:00 pm in Room 113-114.

The meeting was adjourned at approximately 12:00 noon.